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ABSTRACT

Many students perceive economics as a challenging subject, and therefore successfully communicating economics education to students becomes a major concern. This paper uses the work of Sweeney, Becker, and Watts (1996) on undergraduate teaching methods and documents various teaching methodologies utilized in economic education to develop a framework for classifying those methodologies. The framework consists of the three elements of economic education: (1) economic choices; (2) economic concepts; and (3) economic goals. The paper includes Bloom's Taxonomy of Educational Objectives, teacher or student oriented learning activities, technology based learning activities, and individual or group based learning activity. This framework helps to move the literature forward by fostering a better understanding of how the teaching methodologies fit into the scope of economic education and, more importantly, how each of these teaching practices influences the learning environment. The paper calls for additional research to include the continual documenting of the various teaching methodologies utilized in economic education as well as creating alternative or additional classification categories. In addition, a quantitative assessment should be developed that could evaluate how well a teaching methodology influenced the learning process and the outcome achieved by the students. (Contains several illustrations and 27 references.) (BT)

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A Framework for Organizing Economic Education Teaching Methodologies

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Introduction: Economics and Students

Our world is subject to a basic economic truth- scarce resources set against unlimited needs and wants create a situation in which choices must be made. However, despite the reality of this fundamental economic condition the majority of students tend to stay as far away from learning about economics as possible. This trend is unfortunate since a solid foundation in economic education assists students in understanding themselves and the business world that surrounds them. "Economic education helps students develop the critical knowledge and skills they need as citizens to make intelligent decisions and to help shape economic policy" (Schug 1982).

Among the reasons that students sly away from economic courses is that to "learn economics successfully, students need to have ability in both abstract thinking and in application. They also need to be able to express complex ideas logically and fluently" (Johnston and James 2000). This among other reasons might be why many students often view economics as a difficult subject.

Because many students perceive economics as a challenging subject the issue becomes how can economic information be successfully communicated to students. This dilemma is partially rooted in the teaching process and the communication exchange between the teacher and student. Before Becker and Watts (1996) conducted a survey of undergraduate teaching methods, "it had been a decade since economists had tried to assess how undergraduate economics was being taught. In an earlier survey, Sweeney and his colleagues (1983) queried college and university chairpersons about how introductory economic courses were taught" (Benzing and Christ 1997).

In this paper, not only is the work of Sweeney, Becker and Watts continued by documenting various teaching methodologies utilized in economic education but also a framework for classifying those methodologies is developed. The framework consists of the three elements of economic education, Bloom's Taxonomy of Educational Objectives, teacher or student oriented learning activities, technology based learning activities, and individual or group based learning activity. This framework helps to move the literature forward by fostering a better understanding of how each of the teaching methodologies fit into the scope of economic education and more importantly- how each of these teaching practices influence the learning environment.

The First Classification: The Three Elements of Economic Education

Student difficulty in economics has long been recognized and many student-centered instructors have utilized creative teaching methodologies to encourage students to persist in their attempts to understand economics. Utilizing a variety of teaching methods within the learning environment has proven to be a successful teaching strategy (Cadenas 1999). In economic education, the majority of the subject matter that students will encounter can be traced to three general curriculum topics collectively known as the elements of economic education. The three elements of economic education include economic choices, economic concepts, and economic goals (Schug 1982). Economic choices include helping students understand the economic decisions that must be made at both an individual and societal level. Scarce resources versus unlimited wants force individuals and societies to make economic choices. "Teaching students economics,

sometimes called the science of making decisions, is a key ingredient for helping them to become effective citizens, workers, voters, consumers, investors, and participants in a healthy economy" (Vowels 1999). The second element of economic education pertains to acquiring an understanding of economic concepts. The best source for revealing what are the basic economic concepts that students need to comprehend can be found in any macroeconomic and microeconomic textbook. Generally, the economic way of thinking is based upon five core ideas or concepts (Parkin 1996). (1) All economic problems arise from scarcity that force people to make choices and evaluate opportunity cost. (2) Opportunity cost is the best alternative forgone, not the money cost, and includes time cost and external cost. (3) Decisions are made by comparing marginal benefit and marginal cost. (4) When the opportunity cost of an activity increases, the incentive to substitute an alternative activity increases and (5) competition creates ripple along a chain of substitution – second round effects – that dominate the first round effects (Parkin 1996). The final aspect of economic education focuses on economic policy issues and goals. These policy issues include monetary policy, fiscal policy, price stability, interest rate stability, economic justice and so forth. The three elements of economic education underlie the entire curriculum and therefore any of the teaching methodologies reviewed in this paper must fall within the realm of at least one of the elements of economic education.

The Three Elements of Economic Education

Economic Choices	Economic Concepts	Economic Goals

The Second Classification: Bloom's Taxonomy of Educational Objectives

Beyond the three elements of economic education, Bloom's Taxonomy of Educational Objectives (cognitive, affective and psychomotor) could also serve as a classification parameter. The cognitive domain focuses on educational objectives that deal with knowledge, comprehension, application, analysis, synthesis and evaluation. The affective domain relates to attitudinal objectives such as how willing is a student to focus on particular stimuli or how willing is a student to participate in a particular learning situation. The psychomotor domain refers to hands-on or motor skill objectives. Any teaching strategy should be built around at least one of these educational objectives and therefore the objectives should serve as a classification for summarizing the teaching methodologies utilized in economics.

The Third Classification: Teacher or Student Oriented Learning Activities

A third classification for summarizing the teaching methodologies being utilized in economic education can focus on the difference between teacher versus student oriented activities. In a general sense, teacher oriented activities are a one-way form of communication flowing from the teacher to the student. In other words, the teacher controls the flow of information and is the primary actor in the learning environment while the students take on a passive role. In contrast, a student-centered activity involves an interactive exchange between the teacher and the students. The teacher becomes more of a felicitator and the students take on a more active role in the learning environment.

The Fourth Classification: Technology

The influence of technology in every realm of our daily lives is obvious and therefore whether a teaching methodology is a technology based learning approach or a non-technology strategy is another useful criteria for classifying the teaching methodologies utilized in economic education.

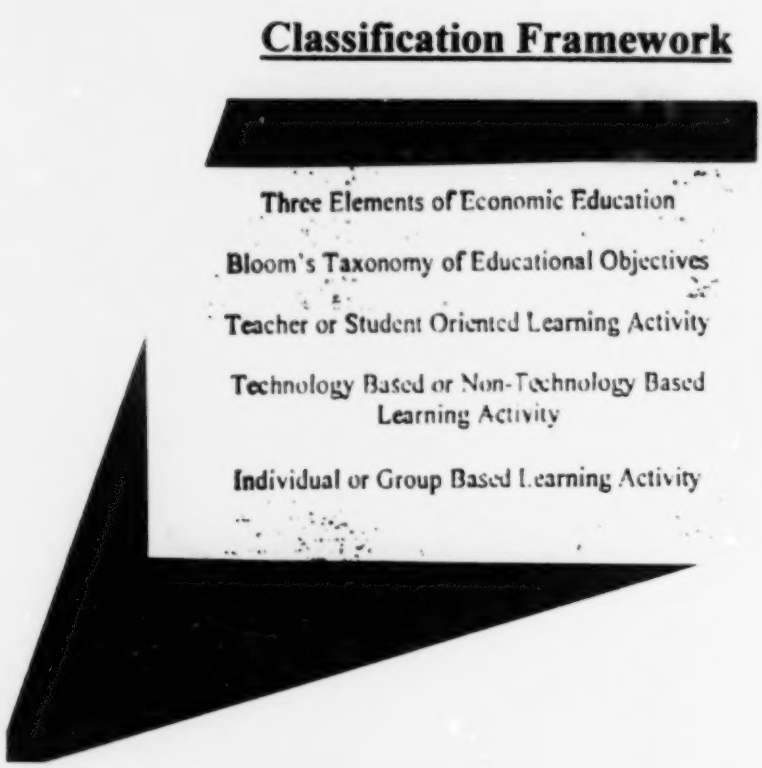
The Fifth Classification: Individual or Group Based Activity

A final classification for summarizing the teaching methodologies utilized in economics can focus on whether the teaching strategy is an individually based learning activity or focussed upon group learning.

Clarifying the Importance of the Classifications for Summarizing the Teaching Methodologies Utilized in Economic Education

Now that the classifications for summarizing the teaching methodologies utilized in economic education have been outlined it is important to clarify how these classifications should be interpreted. Each of the classifications captures a particular characteristic of a teaching methodology and when combined the classifications form a concise and comprehensive framework. A framework that provides a profile by which a particular teaching methodology can be described- similar to how fingerprints can be utilized to identify an individual. However, it must be understood that this framework should not be thought of as a mechanism for evaluating which teaching methodology is superior to another teaching methodology. The framework can be utilized to help evaluate whether a particular teaching methodology is appropriate for a particular

learning situation but no comparative judgements between any two teaching methodologies should be attempted. This inability does not diminish the importance of the classification framework because it still moves the literature forward by providing a guide for categorizing and selecting a specific teaching methodology to accomplish a particular learning objective.


Classification Framework
Three Elements of Economic Education
Bloom's Taxonomy of Educational Objectives
Teacher or Student Oriented Learning Activity
Technology Based or Non-Technology Based Learning Activity
Individual or Group Based Learning Activity
Classifying a teaching methodology in economics

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Reviewing and Classifying some of the Teaching Methodologies Utilized in Economic Education

Now that the classification framework has been established the various teaching methodologies utilized in economic education can be reviewed and categorized.

The collaborative problem solving (CPS) approach

The first teaching methodology to be reviewed is the collaborative problem solving (CPS) approach (Johnston and James 2000). The CPS approach consists of two primary components: problem-based learning and collaborative learning. Problem based learning is an approach that involves presenting students with some type of problem scenario that needs to be solved (Johnston and James [2000], Boud and Feletti [1991]). Collaborative group work fosters the development of improved communication and teamwork skills (Johnston and James [2000], and Kagan [1994]). Most of the activities in CPS "were designed around problem-solving applications of theory and were undertaken in groups of around four students" (Johnston and James 2000). In a study by Johnston and James (2000) a total of 612 students enrolled in a macroeconomic in the second semester of 1995 were divided into two cohorts. In one cohort, 311 students were introduced to CPS approaches to learning while in the other cohort, 301 students received traditional approaches to teaching and learning. The results of the study indicated that the CPS approach did not yield gains in examination marks for the majority of the students nor did this teaching approach have an impact on students' interest in economics. Why these results occurred were not sufficiently explained by Johnston and

James; however the results should not be utilized to immediately condemn this type of teaching methodology- additional research and testing still needs to be undertaken.

In terms of classifying the CPS approach it is a teaching methodology that can be utilized in connection with any of three elements of economic education and is best suited for cognitive and affective educational objectives. In addition, the CPS approach is student oriented, non-technology based, and focused upon group learning.

Service Learning in Economics

The foundation for service learning began with the work of John Dewey (1938). Dewey "argued that the lessons learned when students tended to the welfare of others provided not only an educational stimulus but also an expansion of their horizons and encouragement to take responsibility for their fellow humans" (Strober and McGoldric 1998). Specially, service learning links academic course work with community service projects with the hopeful result of increasing a student's sense of his (or her) own self worth as well as fostering an appreciation of the learning environment. "During the service learning project, students are expected to identify economic issues, explore economic theories, and provide evidence relating their experiences to these economic theories " (Strober and McGoldrick 1998).

In terms of classifying the service learning approach it is a teaching methodology that can be utilized in connection with any of the three elements of economic education as well as any of Bloom's three educational objectives. In addition, the service learning

approach is student oriented, a non-technology focus, and is an individually based learning activity.

Lecturing

Strober and McGoldrick (1998) have suggested that 83 percent of economic course content is presented via the lecture. Both Siegfried et al. [1996] and, in a later paper, Becker and Watts [1996] found that few instructors use alternative pedagogues in introductory economics courses" (Harter and Becker 1999). As stated by Becker (1997) "Cooperative learning techniques in which students work together in the classroom are noticeably absent in all economics courses at research universities where the largest classes tend to be employed." "In contrast, other forms of active learning, and not extensive lecturing, are now the most prominent forms of instruction used across the rest of higher education" (Linda Sax et al. 1996).

In terms of classifying the lecture approach it is a methodology that can be utilized in connection with any of the three elements of economic education and is best suited for the cognitive educational objective. In addition, the lecture method is teacher oriented, could have a technological base if power point or another presentation software package is utilized, and is an individually based learning activity.

Lecturing plus student centered activities

Good lecturing combined with a student participation component can constitute another type of teaching methodology utilized in economic education. The student participation component has many variations including picking students at random during

a lecture and then asking that student to paraphrase or comment on what was just stated (Block 1999). Another suggestion by Newnham (1997) involved organizing students into groups in order to orally review the content of each lecture. Each group would then submit summary write-ups that would ultimately be compiled into a course review document. Another method is the "minute paper" which is assigned in the last minutes of each class. Each student is required to respond to two questions: (1) what was the most important thing you learned in class today? (2) what question is unanswered? (Becker 1997). Other forms of the traditional lecture combined with a student centered learning activity have included: (1) lecture-discussion (2) lecture-laboratory (3) lecture-recitation (4) lecture with problem sets and (5) lecture-demonstration (Eble 1988).

As for classifying these approaches each teaching methodology could be utilized in connection with any of the three elements of economic education as well as any of Bloom's three educational objectives. In addition, the approaches are both teacher and student oriented, could have a technological base if a presentation software package is utilized, and could be individually or group based.

An Interactive (Role Play) Simulation Approach

Utilizing this teaching methodology students are engaged in a role play simulation entitled "Summit of the Americas," a macroeconomic behavioral simulation (Truscott and Rustogi 2000). "The Summit of the Americas is an inactive simulation in which students engage in role playing as trade representatives negotiating trade agreements on behalf of their respective countries. The simulation challenges students to process

information efficiently and quickly, to apply economic analysis, to sharpen decision-making skills, and to improve their negotiation skills, all with a view to developing and implementing a plan to enhance their country's economic and political well-being" (Truscott and Rustogi 2000). A future dimension of the simulation could include an interaction between groups of students from various countries via video conferencing communication.

In terms of classifying an interactive simulation approach it is a methodology that can be utilized in connection with each of the three elements of economic education as well as any of Bloom's three educational objectives. In addition, the interactive simulation approach is student oriented, could have a technological base if video conferencing is utilized, and is a group based learning activity.

The Inverted Classroom Approach

The inverted classroom approach "means that events that have traditionally taken place inside the classroom now take place outside the classroom and vice versa. The use of learning technologies, particularly multimedia, provide new opportunities for students to learn, opportunities that are not possible with other media (Alexander 1995). For example, the use of the World Wide Web and multimedia computers (and/or VCRs) enables students to view lectures either in computer labs or at home, whereas homework assignments can be done in class, groups" (Lage and Platt 2000).

In terms of classifying the inverted classroom approach it is a methodology that can be utilized in connection with any of the three elements of economic education as

well as Bloom's three educational objectives. In addition, the inverted classroom approach is student oriented, could have a technological base if Internet exercises are utilized, and could be either an individually or group based learning activity.

Technology based Teaching Methodologies

"The age of the virtual university has arrived as computer technology, specifically the Internet, offers increased possibilities for higher education" (Vachris and Bredon 1999). Technology based learning approaches utilized in economics include: (1) videotapes, films, television programs such as CSPAN (2) simulation games and microcomputers (3) electronic textbooks (4) Internet and Web-based technologies (5) video conferencing (6) computer software packages such as Derive, Macsyma, Mathcad, Maple, Mathematica, MATLAB, and Theorist (Walbert and Ostrosky 1997).

In terms of classifying these approaches each is a methodology that can be utilized in connection with any of the three elements of economic education as well as any of Bloom's three educational objectives. In addition, these methodologies are student oriented, technology based, and could be an individually or group based activity.

Case Studies

Case studies are another teaching methodology utilized in economic education. As for classifying this teaching approach it is a methodology that can be utilized in connection with any of the three elements of economic education as well as any of Bloom's three educational objectives. In addition, this methodology can be both teacher

and student centered, non-technology based, in most situations, and could be an individual or grouped based activity.

Experiments, demonstrations, or dramatizations

Experiments or demonstrations have also been utilized in economic education. "A simple experiment consisted of holding an auction for a can of cola. Bidding began at five cents and increased in five-cent increments; a count was taken of how many people wanted to buy the can at each price. Eventually, the can was sold to the only person still willing to pay. A simple graph of the data gave the students their first demand curve. A more complex experiment consisted of having the students make peanut butter and jelly sandwiches in a fixed period of time with only two knives. By having additional students participate and then graphing the number of sandwiches produced against the units of labor, production functions were derived. Assuming prices for labor and capital (the knives), the short run cost curves were constructed as well. This experiment also served as a point of reference for the law of diminishing marginal returns" (Lage and Platt 2000).

In terms of classifying these teaching approaches each are methodologies that can be utilized in connection with any of the three elements of economic education as well as any of Bloom's three educational objectives. In addition, these methodologies are teacher and student oriented, non-technology based, in most situations, and could be an individual or group learning activity.

Summarizing the classifications

The table below summarizes each of the teaching methodologies according to the classification framework developed in this paper.

A Classification of the Teaching Methodologies Utilized in Economic Education

Teaching Methodology	Three Elements of Economic Education	Bloom's Educational Objectives	Student or Teacher Oriented Activity	Technology Based	Individual or Group Focused Activity
The (CPS) Approach	All	Cognitive & Affective	Student Oriented	No	Group Focused
Service Learning	All	All	Student Oriented	No	Individual Focused
Lecturing	All	Cognitive	Teacher Oriented	No, but possible	Individual Focused
Lecturing Plus	All	All	Teacher & Student	No, but possible	Individual & Group
Interactive (Role Play)	All	All	Student Oriented	No, but possible	Group Focused
Inverted Classroom	All	All	Student Oriented	No, but possible	Individual or Group
Technology Based	All	All	Student Oriented	Yes	Individual or Group
Case Studies	All	All	Teacher & Student	No, but possible	Individual or Group
Experiments, Demonstrations, Dramatizations	All	All	Teacher & Student	No, but possible	Individual or Group

Conclusion

This paper extended the work of Sweeney (1983), Becker and Watts (1996) by developing a concise framework for summarizing the teaching methodologies utilized in economic education. This framework advances the literature by offering educators a guide for selecting an appropriate teaching methodology for achieving a specific educational objective with the ultimate aim of improving how economic information is communicated to students.

Additional research should include the continual documenting of the various teaching methodologies utilized in economic education as well as creating alternative or additional classification categories. In addition, a quantitative measurement needs to be developed which could specifically evaluate how well a teaching methodology influenced the learning process and the outcome achieved by the students. Only after we begin to move down this path could any comparison be conducted regarding the effectiveness of each teaching methodology.

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